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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/808,152	03/15/2001	Kiyoshi Goto	202834US3	3059

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EXAMINER

LEJA, RONALD W

ART UNIT	PAPER NUMBER
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2836

DATE MAILED: 09/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/808,152

Applicant(s)

GOTO ET AL.

Examiner

Ronald W Leja

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on amendment of 6/26/03.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 13 is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7-12 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 2, 4, 11 and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by Morron et al. (6,025,980).

Morron et al. disclose a ground fault interrupter utilizing a zero-phase current transformer (11), detection resistor (R1), a controller (14,15,16), at least one filter (13) (see Fig. 2) with an input side resistor (R3) and a capacitor (C1) connected in parallel to the controller and wherein the ground fault interrupter does not include a clipping circuit between the zero-phase current transformer and the controller. See Col. 2, lines 18-29.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

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under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morron et al..

Claim 3 essentially requires that the values of the resistor and capacitor of the filter are such that the filter passes frequencies between 0 and approximately 200Hz. Morron et al. teach the passing of 0 thru approximately 80Hz (80Hz upper cut-off frequency) see Col. 3, lines 9-12. It would have been obvious as a matter of engineering design choice to pass up to any chosen cut-off frequency, such as, approximately 200 Hz, as long as harmonics of the line frequency did not create nuisance trippings. The increased frequency cut-off would help to increase sensitivity in the detection of earth leakage currents.

5. Claims 5 and 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morron et al. in view of Burns et al. (3,962,606).

Claims 5, 8 and 9 are drawn to the use of an additional transformer. Claim 5 additionally requires an AC source for energizing the transformer. Claim 8 requires use of a rectifier connected to the transformer via a coupling capacitor. Claim 9 requires a coupling capacitor and a commercial electric source. Morron et al. are somewhat silent about such features. Burns et al.

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teach the use of an additional transformer (T2) for detecting grounding. For Claims 5 and 9, an additional power source is not disclosed, but rather the commercial power supply, which supplies the load powers the transformer. It would have been obvious to offer a separate and additional commercial power source so as to help prevent inadvertent operation due to transients and surges occurring on the main supply lines to the load; this leads to consumer confidence. The transformer would then have to be placed around the neutral line. Addressing Claim 8, Burns et al. teach a rectifier (bridge) configured to rectify alternating-current and connected to the additional transformer, but not via capacitor coupling. However, capacitor coupling is well known in the protection art, and as such, would have been obvious as a means to limit energy.

The limitations added by Claims 7 and 10 are essentially drawn to choosing filter frequencies and leakage detection levels. Burns et al. teach that leakage detection levels are essentially chosen as desired (see Col. 5, lines 8-11). Column 6, line 53 thru Column 7, line 20 further emphasis the choosing of component values so as to result in desired performance. Therefore, the limitations added by Claims 7 and 10 would have been obvious to one having ordinary skill in the art as a matter of engineering design choice. The choices would depend upon such considerations as desired leakage sensitivity and the level of reliability and immunity to noise; high degrees of both would afford the better protection to the consumer; higher

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sensitivity ensures shock protection and noise immunity avoids unnecessary trips.

6. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: Claim 6 adds the rectifier, but also an oscillator to generate ac from the rectified ac. Such a claimed combination is not disclosed nor suggested by the Prior Art of Record.

8. Claim 13 is allowed. (See reasons above for indicated allowability of Claim 6.)

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,


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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald W Leja whose telephone number is (703)308-2008. The examiner can normally be reached on mon-fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703)308-3119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3675.


Ronald W Leja
Primary Examiner
Art Unit 2836

rwl
September 8, 2003

